ZERO RETRIES

JOURNAL OF THE

Northwest Amateur Packet Radio Association

Year End 1988

Volume 5 Number 5

Steve Stroh N8GNJ Editor

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PRESIDENT'S MESSAGE

Ren Roderick WA7QFR

As you will undoubtedly read elsewhere is this issue of Zero Retries, the NAPRA General Meeting in October heralded some changes in the names of the Board of Directors. I'd like to take this chance to personally thank those officers from last year for a job well done.

Former President Budd Churchward, WB7FHC, declined his constitutional right to assume one of the Director positions, but has already agreed to research the changes that would be necessary to NAPRA's Constitution and Bylaws to allow mail-in ballots for Election of Officers. Hopefully this type of change would allow those of you unable to attend NAPRA meetings, for whatever reasons, a chance to have a vote on who will be running the organization in the future.

Former Technical Vice President Bob Donnell, KD7NM, also declined the opportunity to assume the Director position vacated by Budd. Bob has spent many a cold and wet Saturday on mountaintops installing and maintaining the network. Bob will continue to remain a force in the growth of packet radio in the Northwest.

Former Director Larry Babcock, WB7USL, is already looking for equipment to which will enable us to make improvements in the performance you see just talking (typing) with friends on your local LAN. (More on these changes later.) During the next several months we will see some changes in the network. These are only two of the options that are being pursued to help make your network one of the most usable in the country.

As you may remember, the issue of higher speeds on the network backbone has been discussed before. In the ARRL 6th Computer Networking Conference Notes, Dale Heatherington described a 56 kilobaud RF modem. Several of these modems are in construction in this area. However, the cost to build these modem is about $700 per modem. That is the price of the modem only and does not include a controller fast enough to make the modem run at full speed!

Another alternative is the HAPN 4800 baud modem. This inexpensive modem (< $50 in kit form) is designed to be used with the TAPR TNC2 and a regular FM radio. The modem plugs directly into the modem disconnect header in the TAPR tnc. (Some clones of the TAPR tnc may need some slight modification, but these are detailed in the instructions for the HAPN modem.) Connection to the FM radio involves locating several points with the radio (modulator input after any audio shaping circuitry and discriminator output) but is relatively straight forward.

The HAPN modem will allow us to increase the data rate on the backbone without the necessity of completely replacing all of the equipment in use. If construction proceeds on schedule, we may see a live demonstration of the HAPN modem at the NAPRA meeting in Tacoma on November 12th. Another concept which has been experimented with and which will directly effect the average user, is full duplex digital regenerative repeaters. This concept is based on the fact that high hilltops (SEA:WN7ANK-8 for example) have an extremely wide field of view. With the standard simplex practice of each user both transmitting and listening on the same frequency (145.01 in this case), there are stations, which because of their physical location, are unable to hear other stations on the frequency. What develops during "packet prime time" are multiple stations all transmitting at the same time with their packets "colliding". This results in retries by the stations involved which contributes to more collisions.

Using a full duplex digital regenerative repeater, the problem of "hidden transmitters" is greatly reduced. Whenever a station begins to transmit, the hilltop is able to hear the signal and almost immediately begins to retransmit the signal on its output frequency. This causes the other stations on the frequency to "hold off" and wait until the first station has completed its transmission. The result? Reduced retries and improved throughput for the individual user.

We are presently in the process of acquiring the needed equipment to convert SEA:WN7ANK-8 into a full duplex digital regenerative repeater. If you have any equipment that may be of use (2 meter duplexers, isolators, etc.) please contact our Technical Vice President Steve Hazlett, N7HFZ, and let him know. Along other lines, the NAPRA Board of Directors was elected to serve you, the member and the packet community. If you have any suggestions, complaints, wishes or just want to make your voice heard, please let us know. Send your packet messages to us by typing: SP NAPRA @ N7HFZ when you are on your home pbbs. Steve will redistribute them to the Board of Directors. If you would prefer to send them to a specific member of the Board, you will find the home pbbs of each us listed elsewhere in Zero Retries. If you want to encourage a general discussion of your ideas attend a monthly meeting and bring it up there.

NAPRA General meetings are held on the 2nd Saturday of the month at 1:00 P.M. and GENERALLY the meeting location rotates between the Radio Club of Tacoma Building on the even numbered months and the BEARS Shack in Renton on the odd numbered months. Changes of meeting time and location are announced on the Thursday Night Packet Radio Ragchew held on the BEARS repeater (145.33 in the Seattle area and on the Evergreen Intertie in other areas) at 9:00 P.M. on Thursday nights. They are also announced on the packet BBS's.

Meetings of the NAPRA Board of Directors are open to anyone and are held on the 3rd Wednesday of each month in the meeting room at the OMNI Restaurant on South 188th just west of I-5 at 7:00 P.M.

NEW DIGICOM MODEM AVAILABLE

A new 1200-baud modem design is now available for Commodore 64 and 128 users who run Digicom software for Packet Radio. The modem design uses the Texas Instruments TCM 3105JL modem chip and, as a result, it does not require a power supply (just plug it into the computer's cassette port), takes less time to build and tune, and costs approximately $30 (for parts). The modem is the brainchild of John Krohn, KJ4GP, Sam Baine, K4KUM, and Craig Rader, N4PLK. Schematic, etching pattern, and documentation can be obtained by sending an SASE to N4PLK at 922 Baltimore Drive, Orlando, FL 32810-5531.

From Craig Rader, N4PLK in the June 24, 1988 issue of Gateway

A 440 REPEATER IS AVAILABLE FOR EXPERIMENTAL DIGITAL USE

The AB7G repeater located in Northwest King County is there primarily through the efforts of Bob St. Andre, WA7NAN. This repeater will probably forever be in a state of transition. It will be used in whatever mode we find it will best serve. The input frequency is 445.30 MHz and the output frequency is 440.30 MHz. This repeater is available to the Amateur community and at this time we will be focusing for the primary use as a data repeater. This mode could change and the repeater will no doubt be "down" from time to time as changes and improvements are made. Because the repeater is currently used for data, you must, if you have occasion to use it in the voice mode or a form of data that is not automatically identified, identify the station and the repeater with voice or some form of CW. It is not our intention for this repeater to ever become something similar to 145.01. It is our intention that this will be used in a much more unstructured and informal way. Enjoy, respect the FCC, and the other users.

73's,
Claude Anderson AB7G
733 North 148th Street
Seattle, WA 98133

WESTERN U.S. NETWORK MAP

N7EOJ is now the keeper of the N7HPR packet radio network map of the Western United States (N7HPR has moved to Florida). This regularly updated map indicates the location of digipeaters, nodes, PBBS', HF Gateways, and the interconnecting network in California, Colorado, New Mexico, and the W7 call district. It is available by sending an SASE to Budd Turner, N7EOJ, 412 N. Belvedere Avenue, Tucson, AZ 85711.

From Budd Turner, N7EOJ @ W1FJI. Excerpted from Gateway, the ARRL Packet Radio Newsletter., July 22, 1988

DEADLINES FOR FUTURE ISSUES OF ZERO RETRIES

As you have no doubt noticed, the publication of ZERO RETRIES has been rather casual (to put it charitably). I'm going to try to do much better next year. In 1989 ZERO RETRIES will be published on the odd months and be mailed in time to arrive a week or so before that cover date's meeting, with the absolute deadline for submissions being the previous month's meeting. Note that the Jan/Feb issue's deadline and mailing are off one month to get back in "sync" with the desired publication schedule.

Issue:	Deadline:	Mailed:
Jan/Feb 1989	January Meeting	In time for Feb. meeting
Mar/Apr 1989	February Meeting	In time for March meeting
May/Jun 1989	April Meeting	In time for May meeting
Jul/Aug 1989	June Meeting	In time for July meeting
Sep/Oct 1989	August meeting	In time for Sept. meeting
Nov/Dec 1989	October meeting	In time for Nov. meeting

AMIGA PBBS SOFTWARE AVAILABLE

"CONNplex" is a multiple-connect PBBS program for the Commodore Amiga computer which was written by Mike Staines, WA1PTC. The PBBS software is available on the Amiga Amateur Radio Public Domain Disk #3 which is distributed by Kathy Wehr, WB3KRN, RD#1, Box 193, Watsontown, PA 17777. To obtain a copy of the disk, send Kathy a blank formatted disk, a sturdy return envelope, a label printed with your name and address and sufficient postage to mail the disk back to you. (Kathy is editor of Amigan Beacon, a newsletter for hams with Amiga computers, which is associated with the on-the-air AmigaNET, which meets Sundays at 2200Z, on 14.345 MHz and Tuesdays at 2300Z on 3.882 MHz. Amigan Beacon is available via packet radio from the KB3UD PBBS.

From Amigan Beacon. Excerpted from Gateway, the ARRL Packet Radio Newsletter, April 15, 1988.

NETWORKING CONFERENCE PAPERS AVAILABLE

Copies of the full text of the ARRL Amateur Radio Seventh Computer Networking Conference are available from ARRL Headquarters, 193 pages in length, the cost is $12 per copy plus shipping ($2.50 via Parcel Post or Book Rate, $3.50 via insured mail or UPS).

[If you want to know where packet radio is headed in the next few years, this will give you a lot of insight. These papers also contain a very complete description of the PACSATS, which will be launched early next year. -Ed.]

Excerpted from Gateway, the ARRL Packet Radio Newsletter., September 30, 1988

PACKET STORMS AND BLACK HOLES

In a recent article in INFO-WORLD, Mark Stephens discussed some of the typical problems of packet networks. These are computer LANs consisting of up to 10 nodes with a trend toward larger and larger networks. These problems causing difficulties on larger networks are packet storms and black holes.

Packet storms are a real problem on networks running TCP/IP. The problem usually starts with a wild packet adapter card sending out thousands of bad packets, with an unknown address. This confuses the other nodes in the system. Not recognizing the address, the other nodes start sending it on to any other node. This quickly clogs the system for a few seconds and then subsides. On large systems this can happen as often as every 30 seconds and can become a major system overhead concern. The only solution at this point is to change the routing programs or insert active repeaters between segments of the network to remove bad packets.

Unlike packet storms, black holes are typically caused when a packet is sent to a good address, but for some reason that address does not exist on the network. This packet will circulate through the network trying every route to get to the non-existing node. Eventually this will time-out the nodes and die away, but the packet is lost in the black hole.

Thank goodness the AX.25 utilization of packet does not lend itself to these problems. But what about TCP/IP?

KA7TTY @ WS7M

ROUND ROBIN PACKET

Here is a scheme to implement Round Robin QSOs on packet. In this example there are 3 stations wishing to carry on a 3 way conversation on packet. They are AAA, BBB, and CCC. AAA must have capability of multiple channel connection. 1. AAA sets CHCALL ON so he can keep track of who is sending. 2. BBB sets MFROM to YES CCC, MTO to YES CCC, MRPT OFF, and MCON to 2.
3. CCC sets MFROM to YES BBB, MRPT OFF, and MCON to 2.

AAA now connects to CCC via BBB. This insures that BBB will hear every packet from AAA, AAA switches channels and connects to BBB via CCC. Now every packet sent by AAA goes to CCC. BBB sees them cause he is monitoring everything to CCC. Every packet CCC sends goes to AAA, and BBB sees them because he is monitoring everything from CCC also. Every packet sent by BBB goes to AAA, and CCC sees it because he is monitoring everything from BBB.

This scheme will also work it AAA connects to a NETROM node and then to the other stations as above.

KA7TTY @ WS7M

A SIMPLE TNC MULTIPLEXING SYSTEM

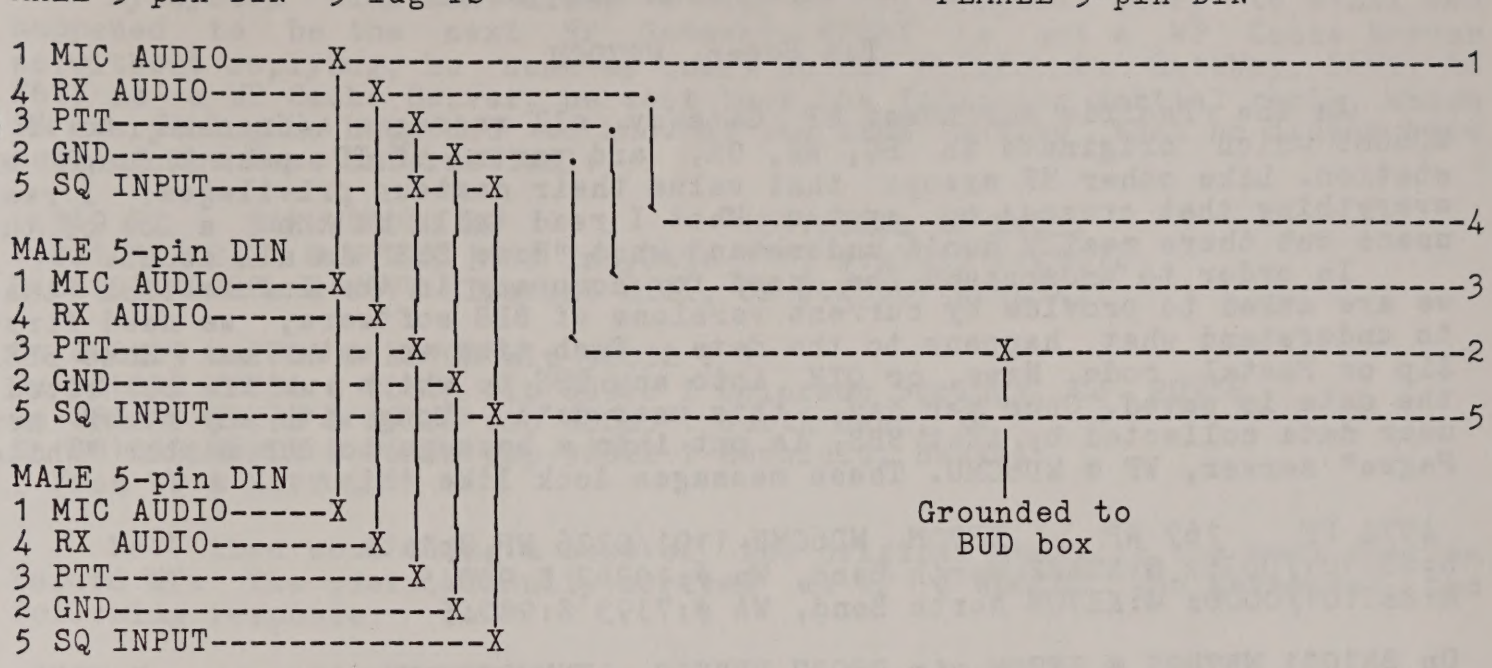
The circuit to allow several TNCs to be muxed into a single radio is quite simple.

Essentially, the signals to/from each sink/source are wire-ORed together.

I constructed the unit an a 2" x 2 3/4" x 1 3/4" BUD box containing a 5-lug terminal strip mounted across the center (1 lug grounded). I mounted a standard female 5-pin DIN socket on one end (as found on most TNCs) and ran three 5-conductor shielded cables into the other end. I tied a knot in the cables inside the box for strain relief. On each of the three cables I attached a 5-pin DIN connector to mate with the DIN connector on a standard TNC-2. My unit is capable of mixing 3 TNCs into one radio. I only needed two, but I knew I'd hate myself later if I had only allowed for two.

The way this circuit works, is all the signals from the various TNC's are paralleled together. Also the PTT and SQ INPUTs are tied to each other. When one TNC keys up (active low on PTT) it puts a low signal on the SQ INPUTs of the other TNCs, thereby not allowing them to key up. You will also notice that the sending TNC's DCD light comes on too, however this won't keep the sending TNC from sending its packets.

Once the transmitting TNC keys up, it will maintain sending packets. This is do to the DCD circuit having a built in delay with a 100K resistor (R42) feeding the input of 74HC14 (U9). The 100K and the input capacitance of U9, allow a sufficient delay of the DCD signal, to allow the TNC to send its packets and not inhibit it. This delay is fast enough that you can't see the LEDs change on the front panel with the human eye.



Please note that on the first circuit, both PTT and SQ INPUT are tied together.

Remember that this circuit will only work with TNCs that allow the PTT line to float to a high state when not transmitting, and are active low when asserting PTT. Check out your particular TNC before trying this. It works on all MFJ1270, 1270B, and probably on 1274's. I would also hazard a guess that any TNC2 clone should work, but check your circuitry before building this up. It's worked quite nice for me with both the BBS and TCP/IP TNC's sharing the same radio, and I see no reason it couldn't be used with even more rigs than three. Also make sure that your audio out (from the TNC) is capacitor coupled. The advantage of this solution is that you don't have to build any new cables. Any standard TNC-2 to radio cable that you already have made up can be plugged into the female 5-pin DIN socket of the BUD box.

The original circuit had the audio out coupled to the receive audio, so I modified it to work better. There were troubles with the audio having enough output to drive the receive audio input. With the modifications as above, it should work just fine now with TNC2s and Clones. Don't forget to tie PTT and SQ INPUT together on one of the circuits or it won't work.

73, Steve N7HFZ @ N7HFZ

Courtesy of "ZERO RETRIES" May/June 1988, page 9.

Originally sent out from WB7DCH and modified by N7HFZ.

10TH ANNIVERSARY OF AMATEUR PACKET RADIO

The past month marked the tenth anniversary of the first successful transmission and errorless reception of Amateur Radio packets. It was back in May 1978, when a group of Montreal, Canada hams accomplished this feat at a meeting of the Montreal Amateur Radio Club.

Congratulations to all participants in this historic amateur packet radio first!

Excerpted from the June 10, 1988 issue of Gateway, the ARRL Packet Radio Newsletter.

WHAT IS THIS "HOME BBS" STUFF?

Tom Hogan, WB7DCH

As the Pacific Northwest HF GateWay, all messages addressed to WP WD6CMU which originate in BC, WA, OR, and parts of ID pass through my station. Like other HF sysops that value their amateur privileges, I read everything that crosses my system. What I read tells me that a lot of the users out there really don't understand what "Home BBS" is all about.

In order to understand the need for accuracy in the information that we are asked to provide by current versions of BBS software, we need first to understand what happens to the data. Each time we enter our Home BBS, Zip or Postal code, Name, or QTH into any BBS to which we are connected, the data is saved. Once per day, this user data, along with any other new user data collected by that BBS, is put into a message to the master "White Pages" server, WP @ WD6CMU. These messages look like this:

```
 4974 PF    167 WP     KE7OM  WD6CMU 1101/0226 WP Update
R:881101/0035z @:N7HFZ North Bend, Wa #:10362 Z:98045
R:881101/0000z @:KE7OM North Bend, WA #:7393 Z:98045

On 881031 WB7UOI @ KE7OM zip 98037 DENNIS  LYNNWOOD, WA.
```

As these messages make their way toward WD6CMU in California, major hub BBSs and HF GateWays along the way collect this data as these messages pass through. These systems, if they have the WP Cache Server function enabled, will also collect data from WP responses passing through and from message headers on every message that passes through. These systems will also answer queries to WP if any of the data is available in the system. If all of the data is not available in a particular system, the query will be passed along to the next system in a direction toward WD6CMU. When finally a complete response can be generated (maybe only by the master WP server @ WD6CMU) it is sent back to the station making the original request.

By way of explanation, I generated the following message to WP:

```
 4903 P      43 WP     WB7DCH WD6CMU 1030/2330 Query
wa7fus ?
kOhoa ?
n7hfz ?
w6hth ?
w7xyz ?
```

[A WP query is a message addressed to WP. Each line of the message is the callsign, a space, and a question mark. WP returns a line containing all information about that callsign.]

Since I am a WP Cache Server, my system immediately returned the following message:

```
 4904 P     235 WB7DCH WP           1030/2331 WP Reply
On 881023 WA7FUS @ KE7OM zip 98032 Peter ?
On 881029 KOHOA @ KOHOA zip ? Dave Colorado Springs, Co. 80918
On 881030 N7HFZ @ N7HFZ zip 98045 Steve North Bend, Wa
On 881030 W6HTH @ W6HTH zip 96822 ? Honolulu, Hawaii
[ From WP @ WB7DCH ]
```

My system then sent along a copy of my original query to W9ZRX who happened to be the next HF GateWay. W9ZRX is not a WP Cache Server so,without replying, he sent my query to the California GateWay, N6VV. As N6VV is a WP Cache Server, he sent back the following partial reply, which is everything he happened to know at the time (notice that he didn't have some of the Name information):

```
 4919 PY    343 WB7DCH WP              1031/0254 WP Reply
R:881031/0245z @:W9ZRX [*** IndyGate ***] #:41953 Z:46074
R:881031/0228z @:N6VV Pleasant Hill, CA #:23507 Z:94523

On 880929 WA7FUS @ KE7OM zip 98032 ? ?
On 881030 KOHOA @ KOHOA zip 80918 ? Colorado Springs, Co. 80918
On 881030 N7HFZ @ N7HFZ zip 98045 ? North Bend, Wa
On 881030 W6HTH @ W6HTH zip 96822 ? Honolulu, Hawaii
[ From WP @ N6VV ]
```

N6VV then sent along a copy of the original query to the next station toward WP. The query finally arrived at WP @ WD6CMU who generated the following response:

```
 4957 P       445  WB7DCH WP                    1031/1632 Reply to WP query
R:881031/1140z @:W9ZRX [*** IndyGate ***] #:42026 Z:46074
R:881031/0755z @:N6VV Pleasant Hill, CA #:23549 Z:94523
R:881031/0731z @:WA6RDH Dixon, Ca. #:6958 Z:95620
R:881031/0314z @:WD6CMU OSKbox, Richmond CA #:17283 Z:94805

WA7FUS QTH KE7OM North Bend, WA ZIP 98032
KOHOA QTH KOHOA Colorado Springs, CO ZIP 80918
N7HFZ QTH N7HFZ Deer Park WA ZIP 98045
W6HTH QTH W6HTH Honolulu, HI ZIP 96822
W7XYZ no record, sorry.
73 DE WD6CMU "White Pages"
```

Now, who learned what from all this activity? Do you remember my saying earlier that WP Cache Servers collect information from passing message headers? Here's what happened:

As my original query went toward WP, N6VV learned that WB7DCH and W9ZRX are BBSs; and WP learned that WB7DCH, W9ZRX, and N6VV are BBSs. On the return trip, WA6RDH learned that WD6CMU is a BBS; N6VV learned that WD6CMU and WA6RDH are BBSs; and WB7DCH learned that WD6CMU, WA6RDH, N6VV, and W9ZRX are BBSs. Needless to say, everyone along the return path learned about WA7FUS, KOHOA, N7HFZ, and W6HTH.

What we have been describing here is what is known as a distributed database. Now that you understand a little of how distributed databases work, one very good question remains: "What keeps all of the WP Cache Servers from getting saturated with data?" Notice that on each line of a WP Response message is the date on which the information was "learned". The information on each user is "aged out" of each local database, usually in 60 to 90 days. This keeps the size of the local database at each WP Cache Server to a manageable size. The master WP Server retains the data for a longer period of time.

The message to users should be clear: each time we log onto a new BBS we should make sure that the data we enter about ourselves is correct and consistent with what we have entered before. We should occasionally send a query to WP @ WD6CMU to find out what the network knows about us. If the data we get back is incorrect or incomplete, we should do ourselves a favor and enter the correct data the next time we log onto a BBS.

The message to sysops is less clear but equally important. Since each WP Cache Server in the network collects data from message headers by parsing these headers as messages pass through, sysops should be sure that their message headers are in one of the standard header formats.

What is this "Home BBS" stuff? It's pretty important stuff. It's our way of informing the network who we are and where we are. It lets us change our Home BBS and, more importantly, change our home QTH and let the network and our friends know about it. Enjoy!

WESTLINK NEWSLINE NEEDS SUPPORT

As most of you are aware, the Westlink Report (available in the Seattle area by phone at 634-3636) is a volunteer organization support solely by listener contributions. Westlink's contributions are irregular (very irregular lately, apparently), while their expenses are not. This very worthwhile service needs your support. Their address is:

Westlink Newsline Support Fund
C/O Norm Chalfin K6PGX
P.O. Box 463
Pasadena, CA 91102

TREASURER'S REPORT

Peter Dahl WA7FUS

This past year has been another successful one for NAPRA. Member dues have paid for some excellent issues of ZERO RETRIES and have provided funds for NAPRA to upgrade some of the Puget Sound Area packet linking LAN's. We have donated funds to the OLY node and the #CPK node for the further development of those systems. We have bought a couple of TNC's for the SEA and SEAW nodes. The NAPRA technical committee is currently experimenting with two 4800 baud modems which your dues have purchased. These will be used to increase the throughput of the backbone system used for interlan linking in the Northwest.

Your membership in and continuing support of NAPRA is very important to the continued orderly growth of packet radio communication in the Pacific Northwest. The NAPRA beginning and end of the year treasury balances were nearly the same. We thank you for your support!

The next round of upgrades to the Puget Sound Packet Radio Network is going to cost significantly more than we have spent on network node systems up to now. Special radios will probably be required when speeds such as 56K baud are required on the backbone to keep up with all of the data generated by users on the foreground nodes. Also, if the FCC's withdrawal of the lower portion of the 220 mhz band is going to take effect we may need to relocate the backbone system to another band. That will require additional funds for new radios. NAPRA's technical committee is also currently accepting donations of equipment necessary to convert at least one of our local hilltop nodes from simplex operation as they are now into full duplex, real-time, digital repeaters.

Anyone having any repeater parts such as solid state receivers or transmitters, cavities, duplexers etc. are urged to contact Steve Hazlett, N7HFZ, your new Technical Vice President.

In summary, please continue your support of NAPRA. Check the address label on your copy of ZERO RETRIES and send in your dues checks when they are due. Please also encourage others to join and support our organization. If you have any questions regarding how your dues money is spent or suggestions on projects which you would like to see NAPRA engaged in please bring your thoughts to NAPRA general or board meetings or address your comments to the board in any other convenient manner.

COMMUNITY AMATEUR PUBLIC SERVICE IS ON THE AIR!

A weekly net will be held on Thursdays at 7:00 P.M. starting November 10th for the purpose of discussing public service events. For this net the 146.82 MHz and 224.12 MHz repeaters will be linked.

This net will also list amateur radio classes, VE exams, club meetings (with programs?), ARRL bulletins, ARRL letter and other items of interest to hams.

Sperry Goodman W7AZU

FROM THE BIT BUCKET (EDITORIAL)

The recent election begins a year in which there has never been so much promise for packet radio, and so many problems for NAPRA.

Packet Radio's fullest potential is rapidly being realized by the development of cutting-edge technologies such as the 56 KBPS RF modems for linking, 9.6 KBPS RF modems for users, full duplex digital repeaters, the TAPR/AMSAT PACSAT program, TCP/IP and other advanced protocols, and of course the continued growth of the Amateur Packet Radio Network.

The problem with NAPRA is lack of participation by the majority of its members, and a drop in the membership in general. It certainly cannot be expected that every member will be "gung ho" and be an active member. However, when everyone in the organization wants to be a passive member, the system collapses. NAPRA currently enjoys the talents of an incredibly dedicated bunch of guys who are currently the officers and trustees. The great majority of them have been with NAPRA since its birth and have served as officers before. None of them are hungry for glory, and it's my opinion that any of them would have stepped aside to let some new blood take over the reins. But, rather than let an office go vacant, they groaned and took on the responsibility again. This can't go on indefinitely. This group of officers is approaching the burnout stage. Several already have burned out. Surely there's enough talent out there to at least step forward and voice your opinions.

Having relocated from an area where there simply wasn't enough of a critical mass to form a group like NAPRA, I realize that the phrase "Our most important assets are our people" isn't just a cliche'- it is TRUTH! If you want to see the Northwest continue to enjoy one of, if not the best Packet Radio Networks in the country, then it is up to YOU to (at the very least) voice your opinions. Come to the meetings (yes, I know they're sometimes boring- we're working on that), and maybe (gasp!) consider running for an office next year. And maybe say THANKS to those tired, yet diligent officers for continuing to do one hell of a job for their fellow packeteers.

YTHNET BACK ON THE AIR!

Budd Churchward WB7FHC has reported that the Youthnet node and the full duplex audio repeater that provides the link to it (YTHNET, 224.56 MHz) on Gold Mountain has been completely repaired and is working better than ever. Budd also reports that YTHNET is getting a thorough workout from eager novice class packeteers. Bob Donnell KD7NM has added a 224.5 port to his Bulletin Board System so that those resident on YTHNET have full direct access to a PBBS (as opposed to accessing a PBBS on another LAN).

NEW NODE TO DEBUT ON 440

Ken Coster N7IPB is in the process of building a node on the 440 MHz band that will likely become the home of packeteers wishing to experiment with advanced packet techniques.

The primary innovation of Ken's node is that it is a full duplex digital regeneration digital repeater. Another is that a primary protocol will be TCP/IP (in contrast to the 146.98 digital repeater where TCP/IP users are secondary to PBBS forwarding).

The as-yet unnamed node, which will initially be located in the Rose Hill/Kirkland area, will have full access to the Northwest Packet Network through Net/Rom or TheNet.

The frequency for Ken's node is 443.925 Receive and 448.925 Transmit. There is currently another node on this frequency on a temporary basis with Ken's permission (the frequency is coordinated to Ken).

Future plans for the node include the possibility of adding 4800 or 9600 BPS modems, and a full time connection to the commercial TCP/IP world.

For more information, Ken or his wife Annie KC7RN can reached via the SEAW 144.99 LAN.

TAPR WORKING ON SIMPLE, CHEAP 9600 BAUD RADIOS

We are never going to realize the true potential of amateur digital communications until we have radios that can respond tho the truly high speed responses we need. The solution to that problem is now on the drawing boards of TAPR developers. The guidelines that they are adhering to are KISS (simple) and KIC (cheap, meaning inexpensive). The device that is planned will be a combination 2 meter radio and modem running at 9600 bps. It will have NO bells and whistles (KISS). Making it available to the amateur community as inexpensively as possible is a primary design goal (KIC).

Don't look for a lot of the niceties (readouts, etc.) that you find on a commercial amateur gear. This program is still in the design stage as I write this and prototyping will be underway when you read it. We are hoping to be able to have a couple of them well enough along so that they can be demonstrated at the annual TAPR meeting on February 25th/26th.

Andy Freeborn NOCCZ

excerpted from President's Corner, TAPR Packet Status Register, November 1988

NORTHWEST AMATEUR PACKET RADIO ASSOCIATION

Membership Application/Renewal Form 12/88

NAPRA, the Northwest Amateur Packet Radio Association is an organization of Amateur radio operators dedicated to the growth of the Amateur Packet Radio network in the Pacific Northwest. Membership is open to all interested individuals- an amateur radio license is not required for membership. NAPRA's yearly dues are $15.00 and include a subscription NAPRA's bimonthly newsletter Zero Retries.

Name: _____

Call: _____ Class:_____ Today's Date _____

Address: _____

City, State/Province, Zip/Postal Code: _____

Phone (with Area Code): _____

Home Packet BBS: _____ TCP/IP Address: _____

Description of your current Radio, Packet (TNC), and computer equipment:

_____

_____

Have radio gear for:

HF __ 10m __ 6m __ 2m __ 220 MHz __ 440 MHz __ 900/1296 MHz __

Are you a member of any Emergency organizations (Red Cross, ARES, etc.)

_____

Any information you do not wish published in the NAPRA Roster?

_____

How did you hear about NAPRA? _____

Any friends interested in packet or amateur radio that you would like a NAPRA introductory package sent to (including yourself)?

_____

Do you regularly listen to the Thursday evening packet radio ragchew on the Evergreen Intertie Repeater Network?

YES _____ NO _____ SOMETIMES _____ CHECK IN? _____ (Y/N)

Please return the completed application to:
NAPRA, 1609 South 261st Place, Kent, Washington 98032

NAPRA 1989 BOARD MEMBERS

President:	Ren Roderick WA7QFR	488-3171	@WA7QFR
Executive Vice President:	Don Werts KA6QMT	228-1099	@KD7NM
Technical Vice President:	Steve Hazlett N7HFZ	888-1280	@N7HFZ
Secretary:	Dennis Goodwin KB7DZ	871-5818	@N7HFZ
Treasurer:	Peter Dahl WA7FUS	839-7717	@KD7NM
Director At Large:	Steve Stroh N8GNJ	481-5735	@KD7NM
Director At Large:	Cliff Neuman N1DMM	789-8788	@N7HFZ

NAPRA's officers and directors can be reached with a single message addressed to NAPRA @ N7HFZ.

The address for editorial contributions to Zero Retries is Steve Stroh N8GNJ, Editor, 14919 NE 163rd Street, Woodinville, WA 98072-8957, 206/481-5735, N8GNJ @ KD7NM

The address for organizational correspondence (including requests for introductory material) with NAPRA is:

NAPRA
1609 South 261st Place
Kent, WA 98032

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NAPRA MEETINGS...

NAPRA General Meetings are held on the Second Saturday of the month beginning at 1:00 P.M. The meetings rotate between the Boeing Employees Amateur Radio Society Clubhouse at the Renton Airport (odd months, talk-in on 145.33) and the Radio Club of Tacoma Clubhouse in Tacoma (even months, talk in on 147.28 and 147.38).

NAPRA Board of Directors Meetings are held at the Omni Restaurant (in their meeting room) in Seattle on the third Wednesday of each month beginning at 7:00 P.M. The Omni's address is 4701 S 188th Street, just West of I-5 (take the 188th Street exit).

The public is welcome to attend these or any other NAPRA meeting.

NAPRA VOICE NET:

NAPRA sponsors a Packet Radio Ragchew every Thursday night from 9:00 to 10:00 P.M. on the Evergreen Intertie Voice Repeater Network. In the Puget Sound area, the frequency is 145.33 (-600 KHz input). Any questions, comments, or news are welcome. Newcomers to packet are especially encouraged to check in.